



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,270	10/31/2003	Jacob Sharony	022.0143 (1553)	2040
29906	7590	01/12/2007	EXAMINER	
INGRASSIA FISHER & LORENZ, P.C. 7150 E. CAMELBACK, STE. 325 SCOTTSDALE, AZ 85251			DEAN, RAYMOND S	
			ART UNIT	PAPER NUMBER
			2618	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/12/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/699,270	SHARONY, JACOB
	Examiner	Art Unit
	Raymond S. Dean	2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 October 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 31 October 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 – 21 have been considered but are moot in view of the new ground(s) of rejection.

Examiner respectfully disagrees with Applicant's assertion that the contention free periods are a mechanism for reserving the channel or band prior to transmission. During the contention free periods (CFPs) the CSMA/CA mode is suspended. The CSMA/CA mode comprises the DCF thus the DCF will be suspended. The DCF consists of a basic mode as well as the optional RTS/CTS access mode. Since the DCF is suspended the basic mode and optional RTS/CTS mode is also suspended and thus there will be no reserving of the channel or band prior to data transmission.

Moreton further teaches a third wireless device including a third dual-band wireless transceiver configured to omni-directionally transmit payload data to the first wireless device exclusively on the second wireless band (Figure 2, Section 0057 lines 1 – 5, Figure 2 shows a plurality of STAs). Moreton in view of Proctor does not teach transmitting payload data to the first wireless device exclusively on the second wireless band during the time period and simultaneously with the transmission of the payload data by the first wireless device.

Flint et al. (US 2003/0222823) teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band (See Section 0063).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual band AP of Moreton in view of Proctor with the dual band configuration taught above by Flint for the purpose of enabling simultaneous communication in the 5 GHz and 2.4 GHz band as taught by Flint.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreton et al. (US 2004/0013128) in view of Proctor (US 2003/0048770) and in further view of Flint et al. (US 2003/0222823).

Regarding Claims 1,9, Moreton teaches a system for wireless communication utilizing a first wireless band and a second wireless band, comprising: a first wireless device including a first dual-band wireless transceiver and a antenna (Figure 3, Sections 0053, 0061, and 0062), the first wireless device, using the antenna, transmitting payload data exclusively on the first wireless band during a time period, without having to reserve the first band prior to transmission and without sensing for communication activity on the first wireless band prior to transmission (Section 0075, during the contention free periods (CFP) the CSMA/CA mode, which comprises the DCF, is

suspended thus there will be no reserving of a band prior to transmission and no sensing for communication activity on the band prior to transmission); and a second wireless device including a second dual-band wireless transceiver, the second wireless device acknowledging reception of the payload data using at least one of the first wireless and second wireless bands by omni-directionally transmitting acknowledgment data during the time period (Figure 2, Sections 0057 lines 1 – 5, 0079 lines 4 – 5, 0080 lines 5 – 8, the 802.11 protocol comprises transmitting acknowledgements, the typical mobile devices in a WLAN have omni-directional antennas); and a third wireless device including a third dual-band wireless transceiver configured to omni-directionally transmit payload data to the first wireless device exclusively on the second wireless band (Figure 2, Section 0057 lines 1 – 5, Figure 2 shows a plurality of STAs).

Moreton does not teach a smart antenna uni-directionally transmitting payload data on a first band and transmitting payload data to the first wireless device exclusively on the second wireless band during the time period and simultaneously with the transmission of the payload data by the first wireless device.

Proctor teaches a smart antenna uni-directionally transmitting payload on a band (Figure 1, Sections 0007 lines 10 – 13, 0008 lines 6 – 9, the antenna apparatus transmits and receives signals).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the antenna apparatus of Proctor as an alternative to the antennas of Moreton for the purpose of alleviating multipath fading as taught by Proctor.

Flint teaches transmitting payload data to a first wireless device exclusively on the second wireless band during a time period of transmission and simultaneously with the transmission of the payload data by the first wireless device (Section 0063, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual band AP of Moreton in view of Proctor with the dual band configuration taught above by Flint for the purpose of enabling simultaneous communication in the 5 GHz and 2.4 GHz band as taught by Flint.

Regarding Claim 16, Moreton teaches a wireless device, comprising: a dual-band wireless transceiver capable of wirelessly transmitting using first and second wireless bands (Figure 3, Sections 0053, 0061, and 0062); and a antenna (Figure 3), wherein payload data is transmitted during a time period using the antenna on the first band without having to reserve the first band prior to the transmission of the payload data and without sensing for communication activity on the first band prior to transmission (Section 0075, during the contention free periods (CFP) the CSMA/CA mode, which comprises the DCF, is suspended thus there will be no reserving of a band prior to transmission and no sensing for communication activity on the band prior to transmission) and wherein the transceiver omni-directionally transmits further payload data on the second band having reserved the second band prior to transmitting the further payload data (Section 0084, the typical mobile devices in a WLAN have omni-directional antennas).

Moreton does not teach a smart antenna uni-directionally transmitting on the first band and wherein second payload data is simultaneously received during the time period using the smart antenna on the second band.

Proctor teaches a smart antenna uni-directionally transmitting on a band (Figure 1, Sections 0007 lines 10 – 13, 0008 lines 6 – 9, the antenna apparatus transmits and receives signals).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the antenna apparatus of Proctor as an alternative to the antennas of Moreton for the purpose of alleviating multipath fading as taught by Proctor.

Flint teaches wherein payload data is simultaneously received during the time period of transmission using an antenna on the second band (Section 0063, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual band AP of Moreton in view of Proctor with the dual band configuration taught above by Flint for the purpose of enabling simultaneous communication in the 5 GHz and 2.4 GHz band as taught by Flint.

Regarding Claims 2, 10, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 9. Moreton further teaches wherein the second wireless device omni-directionally transmits further payload data using only the second wireless band (Figure 2, Section 0057 lines 1 – 5, the typical mobile devices in a WLAN have omni-directional antennas), the second wireless device

reserving the second band prior to transmission of the further payload data (Section 0084).

Regarding Claims 3, 11, 18, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 9, 16. Moreton further wherein the first wireless band is 5 GHz band and the second wireless band is a 2.4 GHz band (Section 0053).

Regarding Claims 4, 12, 19, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 9, 16. Proctor further teaches wherein prior to uni-directionally transmitting the payload data via the first wireless band, the first wireless device determining location of the second wireless device (Section 0039 lines 10 – 13).

Regarding Claims 5, 13, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 9. Moreton further teaches wherein the first wireless device transmits data using the second wireless band to the second wireless device (Section 0088), the first wireless device reserving the second wireless band prior to the transmission (Section 0084). Proctor further teaches omni-directionally transmitting data (Section 0008 lines 3 – 4).

Regarding Claims 6, 14, 20, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 2, 9, 19. Flint further teaches transmission of the payload data from the first wireless device to the second wireless device via the first wireless band and transmission of the further payload data from the second wireless device to the first wireless device via the second wireless

band are simultaneous (Section 0063, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band).

Regarding Claims 7, 15, 21, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 6, 14, 20. Proctor further teaches wherein coverage areas of the corresponding uni-directional and omni-directional transmissions are substantially similar (Section 0007 lines 1 – 4, the coverage of a typical adaptive antenna array can be adjusted such that the uni-directional coverage is substantially similar to the omni-directional coverage).

Regarding Claims 8, 17, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 16. Moreton further teaches wherein the first wireless device is an access point (Section 0053).

4. Claims 22 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreton et al. (US 2004/0013128) in view of Flint et al. (US 2003/0222823).

Regarding Claim 22, Moreton teaches a method for wireless communications, comprising: a first wireless device transmitting downstream payload data addressed to a destination wireless device exclusively using a high frequency band during a time period (Figure 2, Sections 0053, 0058 – 0060), the downstream payload data being transmitted as a plurality of sequential downstream data transmissions (Section 0078, the frames comprise sequential data segments), the first wireless device transmitting the downstream payload data without having to make preparatory transmissions to reserve

the high frequency band prior to transmission (Section 0075, during the contention free periods (CFP) the CSMA/CA mode, which comprises the DCF, is suspended thus there will be no reserving of a band prior to transmission and no sensing for communication activity on the band prior to transmission).

Moreton does not teach during the time period and between two of the sequential downstream data transmissions, the first wireless device receiving respective upstream payload data from at least one additional wireless device exclusively using a low frequency band that does not overlap the high frequency band.

Flint teaches during a time period of transmission and between two of the sequential data transmissions, the first wireless device receiving respective upstream payload data from at least one additional wireless device exclusively using a low frequency band that does not overlap the high frequency band (Section 0063, typical 802.11 systems comprise sequential data transmissions, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual band AP of Moreton with the dual band configuration taught above by Flint for the purpose of enabling simultaneous communication in the 5 GHz and 2.4 GHz band as taught by Flint.

Regarding Claim 23, Moreton in view of Flint teaches all of the claimed limitations recited in Claim 22. Moreton further teaches during the time period and between two of the sequential downstream data transmissions, the first wireless device receiving

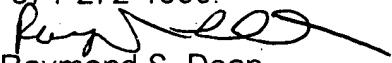
upstream acknowledgment data from the destination wireless device, the upstream acknowledgement data acknowledging receipt of downstream payload data by the destination wireless device (Section 0080 lines 5 – 8); and during the time period and between two of the sequential downstream data transmissions, the first wireless device transmitting downstream acknowledgement data to the at least one additional wireless device, the downstream acknowledgment data acknowledging receipt of the upstream payload data by the first wireless device (Section 0080 lines 5 – 8).

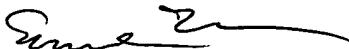
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Raymond S. Dean
December 27, 2006


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600